



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,255	04/23/2004	Jin-Ho Kim	2025-13	3254

52706 7590 07/30/2007  
IPLA P.A.  
3580 WILSHIRE BLVD.  
17TH FLOOR  
LOS ANGELES, CA 90010

EXAMINER
----------

SHAIFER HARRIMAN, DANT B

ART UNIT	PAPER NUMBER
----------	--------------

2134

MAIL DATE	DELIVERY MODE
-----------	---------------

07/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/709,255	Applicant(s) KIM ET AL.	
	Examiner Dant B. Shaifer - Harriman	Art Unit 2134	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04/23/2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/04/2004</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim(s) c1- c10 are objected to because of the following informalities: claims c1 – c10 are numbered in letters and numerals, and should be numbered in numerals and in ascending order. For example the claims should be labeled 1- 10, and not c1 – c10.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim(s) c1 –c10 are rejected under 35 USC 103 (a) as being obvious over Cheng et al. (US Patent # 7107609 B2) in view of Fontes et al. (US Patent # 7058718 B2).

Cheng discloses a system of an external network (i.e. the internet) with external hosts and internal network (i.e. private network) with internal hosts, and in between the external network and the internal network there is a firewall cluster (i.e. multiple firewalls), Figure 1 & Col. 3, lines 15 – 22. The firewall consists of many firewalls that are synchronized with each other to allow any internal client to request information from the external network by choose anyone of firewalls: 12, 14, 16, 18; see Figure 1 & Col. 3, lines 21 – 27. The internal networks are called sub-networks, which are made up of

Art Unit: 2134

LAN (Local Area Networks), and are labeled 32, 34, 36, and are geographically separated from each other with an associated firewall attached to the sub-network, Figure 1, Col. 3, lines 30 –36. Each firewall in the firewall cluster is made up of a processor, state machine that stores the state of the firewall in memory contained in the firewall, (col. 5, lines 3 –14 & figure 4. When the client requests information or data from the external network, the data 120 (figure 3), the data 120 must be received by the original host that requested the data, and the corresponding firewall in the firewall cluster that protects the original requesting host of the internal sub-network. If the data 120 from the internet doesn't reach the original host/firewall, the different firewall in the firewall cluster that received the data 120 packet flow that didn't originate from the different firewall; that firewall is in charge to find the home device (i.e. firewall) to forward the data 120 packet flow from the internet to the original requesting host. The receiving device (i.e. a firewall) will send out a signal and the first data packet from the data 120-packet flow to all firewalls on the firewall cluster to see who is the home device or the requesting host device. All firewalls will update their state table and forwarding tables; once the home device or requesting device is found the, the firewall that didn't request the data 120 from the internet will up data its state table and forwarding table and forward all data 120 packets to the home device and host respectively, Col 4, lines 38 - 67 & Col 5, lines 1-3; Col. 4, lines 4 – 10.

Cheng does not appear to explicitly disclose a modified SYN cookie that will allow for a modification of a SYN packet and SYN/ACK that is sent from the client to the server and

Art Unit: 2134

server to client to inform other firewalls of the same network of the current connection state or session characteristics of the other firewalls on the network.

However, Fontes discloses blended SYN cookie or modified SYN cookie that is embedded in SYN packet that is sent from a client to a server and a modified SYN/ACK packet that is sent from the server to the client, Col. 5, lines 32 – 34. The blended SYN cookie is embedded in the SYN/ACK, the SYN/ACK includes a Hash of the IP address of the server and the corresponding port of the server, random seed, date and time value, index value to a legitimate TCP connections table and client sequence number, Col.5, lines 32 – 45. The blended SYN cookie is used to authenticate the client, this takes place in the networks firewall or firewalls. Once the authentication of the client is authenticated, the firewall or firewalls of the network become the authenticated client and will now be used to establish a connection with the server, Col. 5, lines 46 – 58 & Col. 8, lines 20 – 34.

Cheng and Fontes are analogous art because they are from the “same field of endeavor,” and are both are developed to prevent the breach of internet security of user’s information or profile, requested data in transit from one host to another host, or data in transit from one device to another device, in general both inventions are developed to strengthen security on the internet and its vast array of activities.

Art Unit: 2134

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Cheng and Fontes before him or her, to modify the multiple firewall devices of Cheng to include a modified SYN cookie of Fontes, which would allow for synchronization of the multiple firewalls on the network facilitates authentication of clients requesting information from the internet, Col. 5, lines 48 – 58 & Col. 7, lines 10 – 15 of Fontes.

The suggestion/motivation for doing so would have been to modify how a client on a internal network (i.e. private network) would request access to a external unsecured network (i.e. the internet) and not be susceptible to a synchronization attack or acknowledgement attack, Col 5, lines 17 - 21.

Therefore it would have been obvious to combine Fontes with Cheng to obtain the invention as specified in the instant claim(s).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dant B. Shaifer - Harriman whose telephone number is 571-272-7910. The examiner can normally be reached on Monday - Thursday: 8:00am - 5:30pm Alt.Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2134

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

D.S.H.

NASSER MOAZZAMI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

  
7, 20, 07